

REMARKS

In the Office Action, dated March 1, 2004, the Examiner rejected claims 1-5, 10-15, 20, 21, 23 and 24 under 35 U.S.C. §102(e) as allegedly being anticipated by U. S. Patent No. 6,604,101 (hereinafter "CHAN"). The Examiner also rejected claims 6-9, 16-19, 22 and 25 under 35 U.S.C. §103(a) as allegedly being unpatentable over CHAN in view of U.S. Patent No. 6,006,221 (hereinafter "LIDDY"). Reconsideration of the outstanding rejection of pending claims 1-25 is respectfully requested in view of the following remarks.

REJECTIONS UNDER 35 U.S.C. §102

In paragraph 5, the Office Action rejects pending claims 1-5, 10-15, 20, 21, 23 and 24 under 35 U.S.C. §102(e) as allegedly being anticipated by CHAN. Applicants respectfully traverse.

Claim 1 recites, among other features, "receiving a search query that includes terms in a first language," "determining possible translations of the terms of the search query into a second language," "locating documents in the first language that contain references that match the terms of the search query and identify documents in the second language" and "disambiguating among the possible translations of the terms of the search query using the identified documents to identify one of the possible translations as a likely translation of the search query." Applicants submit that CHAN does not disclose at least one of the features of claim 1.

A proper rejection under 35 U.S.C. §102(e) requires that a single reference teach every aspect of the claimed invention either expressly or impliedly. Any feature not directly taught

must be inherently present. See M.P.E.P. § 2131. Applicants respectfully submit that CHAN does not disclose at least one of the features recited in claim 1.

CHAN discloses a system and method that dialectally standardizes a user query into a more commonly known or used term before translating the standardized user query from a source language into a target language (column 3, lines 25-36). As disclosed in column 5, line 23 through column 6, line 54, CHAN discloses a method that consists of dialectal standardization, pre-search translation and post-search translation. During dialectal standardization, a dialectal controller identifies a keyword from an input user query and standardizes it to a commonly known word and/or term (column 5, lines 24-35). If the dialectal controller fails to recognize the keyword and, thus, is unable to perform dialectal standardization, the user may be prompted for more input, or to choose from a set of expressions to clarify the user's query (column 5, lines 56-61).

The dialectally standardized output for the identified keyword is then input into a translator (column 6, lines 1-5). The translator translates the standardized keyword into an equivalent in a target language pre-selected by the user prior to the translation stage (column 6, lines 5-9). The translation output is fed into a search engine of the target language (column 6, lines 11-13). The search engine searches for web sites related to the translated keyword and provides an output of search results (column 6, lines 13-16). The user can then either choose to view the search results in the target language itself, or choose to have the search results translated in whole or in part into the source language (column 6, lines 28-33). If the user desires to have the search results translated into the source language, the user can selectively highlight

portions of the results and have the highlighted portions translated (column 6, lines 33-37). The search results are then translated to the source language and the translated results are displayed as search results to the user (column 6, lines 54-58).

CHAN, thus, merely discloses the dialectal standardization of terms of a search query in a source language, translation of the dialectally standardized into a target language, and searching, using the translated search query terms, to locate relevant web pages in the target language. CHAN does not disclose, or even suggest, the location of documents in a first language that further identify documents in a second language, and use of those identified documents in the second language to identify one of the possible translations of a search query from the first language into the second language, as recited in claim 1.

The Office Action alleges that CHAN discloses the features of claim 1 and cites column 7, lines 1-27; column 6, lines 1-23; column 6, lines 24-67; and column 4, lines 15-29 for support (Office Action, pages 2 and 3). Applicants disagree.

At column 7, lines 1-27, CHAN discloses:

FIG. 3 is a flow diagram illustrating the processing of the query submitted in the source language, dialectal standardization of the keyword, translation of the standardized keyword into the target language, search and retrieval of information and post-search translation. The process begins with the selection of a target language by the user 144. This is followed by an input of a query in a source language 146 by the user. The query so input is received by the server 148. If the server finds the query acceptable 150, the query is sent to the dialectal controller for processing. The dialectal controller uses processing logic to identify the keyword 152. Statistical data in conjunction with syntactic analysis provides the foundation for the processing logic so as to include and exclude certain kind of verbal entries. Thereafter, the dialectal controller applies dialectal standardization logic to standardize keyword 154. Such a logic is used so as to standardize the keyword to a commonly known word/term. If the standardization 156 is successful, the standardized word is input into a translator for translation of the

standardized keyword into the target language 158. This step is followed by the input of this translated keyword into the search engine of the target language to perform search in the target language 160. This search yields results in target language 162 satisfying the search criteria. Depending on the user's competency level and needs, the user may choose to access the displayed search results in the target language itself 164 or alternatively, the user may have the results of the search translated in whole or in part into the source language 166.

The above-section of CHAN merely discloses the dialectal standardization of terms of a search query in a source language, translation of the dialectally standardized into a target language, and searching, using the translated search query terms, to locate relevant web pages in the target language. This section of CHAN does not suggest or disclose at least one of the above-noted features of claim 1.

At column 6, lines 1-23, CHAN discloses:

According to a preferred embodiment of the present invention, the dialectally standardized output for the identified keyword is input 126 into the translator. The translator translates the standardized keyword into an equivalent in a target language and gives an output in the target language 130, such target language having been pre-selected by the user prior to the translation stage. In one embodiment, a pre-determined target language can be selected as a default target language. The output so obtained in the target language is then fed into a search engine of the target language 132. This input sets the search engine into motion and the search engine begins searching for sites related to that particular keyword and provides an output of search results 134. The search results obtained following the search are displayed as search results on the screen 115 of the user. The search results obtained may be of many different kinds such as titles/catalogs along with their URL links or actual web sites or web pages with contents or even subpages with title along with their URL links. The search results obtained may be any or all of these.

The above-section of CHAN merely discloses the "pre-search translation" portion of the method of CHAN in which a translator takes the dialectally standardized search query term(s) and translates the term(s) into a target language that can be fed into a search

engine. This section does not suggest or disclose at least one of the above-noted features of claim 1.

At column 6, lines 24-67, CHAN discloses:

According to the preferred embodiment of this invention, the user now has access to the search results in the target language.

Depending on the user's competence level and needs, the user may either choose to view the search results so obtained in the target language itself, or he/she may specify that the search results be translated in whole or in part into the source language.

This can be done by the user by selectively highlighting the portions that he/she desires to be translated and by entering an appropriate command or selecting an appropriate option. In accordance with a preferred embodiment of the present invention, if the user chooses to have a post-search translation 136 of the search results from target language to source language, the user has two available options.

The user can choose between having a machine translation 138 of the web sites into the source language, such translation being available with reading aids. Alternatively, the user may choose a well translated version 140 of the site into the source language. The selection of a particular kind of translation by the user depends on his/her particular needs.

For instance, users who are totally unfamiliar with the sites in the target language may opt for machine translations with reading aids so as to get an idea about the contents of the site in a broad manner. On the other hand, users whose needs warrant a more clear and unambiguous translation of the sites will prefer well-translated sites.

After the user makes the selection of the kind of translation required by him/her, the search results are translated to the source language and the translated results 142 are displayed as search results on the screen of the user. The search results obtained may be of many different kinds such as titles/catalogs along with their URL links or actual web sites or web pages with contents or even sub pages with title along with their URL links. The search results obtained may be any or all of these and the user may opt to have any or all of these search results translated.

According to one embodiment of the present invention, the user may choose to

have any or all of these different kinds of search results translated into the source language if he/she so desires.

The above-section of CHAN merely discloses the "post-search translation" portion of the method of CHAN in which the user may have specified portions of the search results translated back into the original source language. This section, however, does not suggest or disclose at least one of the above-noted features of claim 1.

At column 4, lines 15-29, CHAN discloses:

An alternative embodiment of the present invention may also be used with a query prompter on the server so that in cases where the initial query entered by the user is insufficient for dialectal standardization, more input is solicited by the query prompter from the user to help standardize the words into acceptable and known words in the target language.

One advantage of the present invention is to provide a method and a system that dialectally standardizes the keyword or query input by the user to a more commonly known and/or used term. Dialectal standardization is distinctly helpful because standardizing the word to a commonly known word insures that the target language search engine will recognize it.

The above-section of CHAN merely discloses an alternative embodiment of the system in which, if dialectal standardization initially fails when applied to a user search query, more input can be solicited from the user to assist the dialectal controller in standardizing the search term(s) into acceptable words in the target language. This section, however, does not suggest or disclose the above-noted features of claim 1.

For at least any one of these reasons, Applicants submit that CHAN does not anticipate claim 1. Withdrawal of the rejection of this claim under 35 U.S.C. §102(e) is, therefore, respectfully requested.

Claim 2-5 depend from claim 1 and, therefore, patentably distinguish over CHAN for at least the reasons set forth with respect to claim 1 above.

Independent claim 10 recites “means for obtaining a search query that includes terms in a first language,” “means for performing an initial translation of the terms of the search query into a second language, the initial translation identifying one or more possible translations of the terms of the search query,” “means for searching a database to locate documents in the first language that contain references that match the terms of the search query and identify documents in the second language,” and “means for disambiguating among the possible translations of the terms of the search query using the identified documents to identify one of the possible translations as a correct translation of the search query into the second language.” CHAN does not disclose, or even suggest, means for searching a database to locate documents in a first language that further identify documents in a second language, and use of those identified documents in the second language to identify one of the possible translations of a search query from the first language into the second language as a correct translation, as recited in claim 10. Withdrawal of the rejection of claim 10 is, therefore, respectfully requested.

Independent claim 11 recites “a database of documents in a plurality of languages,” “a search engine configured to: receive a search query that includes terms in a first language, and search the database to locate documents in the first language that contain references that match the terms of the search query and identify documents in a second language,” and “a query translation engine configured to: receive the search query, determine possible translations of the terms of the search query into the second language, and “disambiguate among the possible

translations of the terms of the search query using the identified documents in the second language to identify one of the possible translations as a likely translation of the search query.” CHAN does not disclose, or even suggest, a search engine configured to search a database to locate documents in a first language that further identify documents in a second language, and a query translation engine that uses the identified documents in the second language to identify one of the possible translations of a search query from the first language into the second language as a likely translation, as recited in claim 11. Withdrawal of the rejection of claim 11 is, therefore, respectfully requested.

Claims 12-13 depend from claim 11 and, therefore, patentably distinguish over CHAN for at least the reasons set forth above with respect to claim 11.

Independent claim 14 recites a computer readable medium that comprises “instructions for obtaining a search query that includes terms in a first language,” “instructions for determining possible translations of the terms of the search query into a second language,” “instructions for finding documents in the first language that contain references that match the terms of the search query and identify documents in the second language,” and “instructions for disambiguating among the possible translations of the terms of the search query using the identified documents to translate the search query into the second language.” CHAN does not disclose, or even suggest, a computer readable medium that comprises instructions for finding documents in a first language that further identify documents in a second language, and instructions that use the identified documents in the second language to translate the search query

into the second language, as recited in claim 14. Withdrawal of the rejection of claim 14 is, therefore, respectfully requested.

Independent claim 15 recites “a search engine configured to: receive a search query that includes one or more terms in a first language, and locate documents in the first language that contain anchor text that matches the terms of the search query and identifies documents in a second language” and “a query translation engine configured to: receive the search query, initially translate the search query to determine possible translations of the terms of the search query into the second language, and disambiguate among the possible translations of the terms of the search query using the identified documents in the second language to identify one of the possible translations as a correct translation of the search query.” CHAN does not disclose, or even suggest, a search engine configured to locate documents in a first language that further identify documents in a second language, and a query translation engine configured to use the identified documents in the second language to identify one of the possible translations as a correct translation of the search query, as recited in claim 15. Withdrawal of the rejection of claim 15 is, therefore, respectfully requested.

Independent claim 20 recites “receiving a search query that includes terms in a first language,” “determining possible translations of the terms of the search query into a second language,” “locating documents in the first language that contain references that match the terms of the search query and refer to other documents in the first language,” “identifying documents in the second language that contain references to the other documents,” and “disambiguating among the possible translations of the terms of the search query using the identified documents

to identify one of the possible translations as a likely translation of the search query.” CHAN does not disclose, or even suggest, locating documents in a first language that further refer to other documents in the first language, identifying documents in the second language that contain references to the other documents, and using the identified documents to identify one of the possible translations as a likely translation of the search query, as recited in claim 20.

Withdrawal of the rejection of claim 20 is, therefore, respectfully requested.

Independent claim 21 recites “a search engine configured to: receive a search query that includes terms in a first language, locate documents in the first language that contain references that match the terms of the search query and refer to other documents in the first language, and identify documents in a second language that contain references to the other documents” and “a query translation engine configured to: determine possible translations of the terms of the search query into the second language, and disambiguate among the possible translations of the terms of the search query using the identified documents to identify one of the possible translations as a likely translation of the search query.” CHAN does not disclose, or even suggest, a search engine configured to locate documents in a first language that further refer to other documents in the first language and to identify documents in the second language that contain references to the other documents, and a query translation engine configured to use the identified documents to identify one of the possible translations as a likely translation of the search query, as recited in claim 21. Withdrawal of the rejection of claim 21 is, therefore, respectfully requested.

Independent claim 23 recites “receiving a search query that includes terms in a first language,” “determining possible translations of the terms of the search query into a second

language,” “locating documents in the first language that match the terms of the search query,” “identifying documents in the second language that contain references to the first language documents,” and “disambiguating among the possible translations of the terms of the search query using the second language documents.” CHAN does not disclose, or even suggest, locating documents in a first language that match terms of a search query, identifying documents in a second language that contain references to the first language documents and using the second language documents to disambiguate among the possible translations of the terms of the search query, as recited in claim 23. Withdrawal of the rejection of claim 23 is, therefore, respectfully requested.

Independent claim 24 recites “a search engine configured to: receive a search query that includes terms in a first language, locate documents in the first language that match the terms of the search query, and identify documents in a second language that contain references to the first language documents” and “a query translation engine configured to: determine possible translations of the terms of the search query into the second language, and disambiguate among the possible translations of the terms of the search query using the second language documents to identify one of the possible translations as a likely translation of the search query.” CHAN does not disclose, or even suggest, a search engine configured to locate documents in a first language that match terms of a search query and identify documents in a second language that contain references to the first language documents and a query translation engine configured to use the second language documents to identify one of the possible translations as a likely translation of

the search query, as recited in claim 24. Withdrawal of the rejection of claim 24 is, therefore, respectfully requested.

REJECTIONS UNDER 35 U.S.C. §103

In paragraph 7, the Office Action rejects pending claims 6-9, 16-19, 22 and 25 under 35 U.S.C. §103(a) as allegedly being unpatentable over CHAN in view of LIDDY. Applicants respectfully submit that the Office Action has failed to establish a *prima facie* case of obviousness with respect to the rejection of claims 6-9, 16-19, 22 and 25.

As one requirement for establishing a *prima facie* case of obviousness, the reference (or references when combined) cited by the Office Action must teach or suggest all of the claim features. *In re Vaeck*, 947 F.2d 488, U.S.P.Q.2d 1438 (Fed. Cir. 1991). See M.P.E.P. § 2143; MPEP 706.02(j). Applicants respectfully submit that the references cited by Office Action, either singly or in combination, do not teach or suggest at least one of the features recited in claims 6-9, 16-19, 22 and 25.

LIDDY discloses a system the permits a user to enter a natural language search query in a desired one of multiple supported languages, and retrieve documents from a database that includes documents in at least one other language from the multiple supported languages (column 2, lines 42-48). Each document in the database is subjected to a set of processing steps to generate a language-independent conceptual representation of the subject content of the document (column 2, lines 55-59). Documents in the database are then matched to queries based on the conceptual-level contents of the document and query (column 2, lines 66-67).

The system of LIDDY includes a “multilingual concept group disambiguator” (MCGD) that selects a single most appropriate concept group from a multilingual concept database for all input search query terms for which multiple concept groups have been retrieved (column 11, lines 38-41). Each concept group includes a collection of words or phrases, in multiple languages, that are conceptually synonymous or near-synonymous (column 11, lines 18-21). If a term in the natural language search query belongs to more than one concept group, and disambiguation is needed, then the MCGD selects the appropriate concept group using three sources of linguistic evidence: 1) local context, 2) domain knowledge, or 3) global information (column 11, lines 59-64).

When using “local context,” the system of LIDDY determines whether a single word in the natural language sentence search query has been “tagged” with only one concept group code, or whether there are any concept group codes that have been assigned to more than a predetermined number of words within the natural language sentence search query (column 11, line 66 – column 12, line 5). If either is the case, then the associated concept group codes are used as “anchors” in the sentence for disambiguating the remaining words in the natural language sentence search query (column 12, lines 4-7).

When using “domain knowledge,” the system of LIDDY determines the extent to which words of one concept group tend to co-occur with words of other concept groups in a natural language sentence search query (column 12, lines 22-31). For each word which has not had one of its multiple concept group codes selected using local information, the system consults a “multilingual concept group correlation matrix” (MCGCM) to select an appropriate concept

group code from the multiple concept group codes associated with the word (column 12, lines 26-31).

When using “global information,” a frequency database is consulted that provides frequencies of each particular search word’s usage as a particular sense (column 13, lines 3-17). The frequency database assigns the most frequent sense as the concept group for a word from the natural language search query (column 13, lines 15-17).

In view of the remarks above, LIDDY, thus, does not suggest or disclose “locating documents in the first language that...identify documents in the second language” and “using the identified documents to identify one of the possible translations as a likely translation of the search query,” as recited in claim 1. Similarly, LIDDY does not suggest or disclose “a search engine configured to...locate documents in the first language that...identifies documents in a second language” and “a query translation engine configured to....disambiguate among the possible translations of the terms of the search query using the identified documents in the second language to identify one of the possible translations as a correct translation of the search query,” as recited in claim 15. Since CHAN does not disclose each and every feature of claims 1 and 15, and LIDDY does not remedy the deficiencies in CHAN, Applicants submit that the Office Action has failed to establish a *prima facie* case of obviousness since both of the references combined fail to disclose each and every feature of claims 6-9, 16 and 17.

Furthermore, Applicants respectfully submit that claims 8 and 9 recite other features not disclosed or suggested by CHAN or LIDDY. For example, claim 8 recites “wherein the disambiguating among the possible translations includes: using text of the identified documents

as parallel corpora, and using a parallel corpora disambiguation technique to differentiate among the possible translations of the terms of the search query.” As discussed above, neither CHAN nor LIDDY discloses “locating documents in the first language that...identify documents in the second language” and “using the identified documents to identify one of the possible translations as a likely translation of the search query,” as recited in claim 1. LIDDY merely discloses the use of three sources of linguistic evidence (e.g., local context, domain knowledge, and global information) for disambiguating natural language search terms, none of which includes documents in a second language identified by documents in a first language. LIDDY does not suggest or disclose locating documents in a first language that identify documents in a second language and disambiguating among the possible translations of the terms of the search query using the identified documents to identify one of the possible translations as a likely translation of the search query, where the disambiguating among the possible translations includes using text of the identified documents as parallel corpora, as recited in claim 8.

The Office Action (page 8) cites column 13, lines 11-17 of LIDDY in support of the rejection of claim 8. This section of LIDDY includes the following:

Therefore, the words not yet disambiguated by Local Context or Domain Knowledge will now have their multiple concept group codes compared to a Global Knowledge database source, referred to as the frequency database. The database is an external, off-line sense-tagging of parallel corpora with the correct concept group code for each word. The disambiguated parallel corpora will provide frequencies of each word's usage as a particular sense (equatable to concept group) in the sample corpora. The most frequent sense is selected as the concept category.

This section of LIDDY merely discloses the use of a frequency database for selecting a particular concept group for a word of a natural language search query. This section does not disclose any

of the features of claim 8 noted above. Therefore, since neither CHAN nor LIDDY nor the references when considered in combination discloses or suggests each and every feature of claim 8, Applicants submit that the Office Action has failed to establish a *prima facie* case of obviousness. Withdrawal of the rejection of claim 8 is respectfully requested for at least this additional reason.

Claim 9 also recites additional features not suggested or disclosed by CHAN and LIDDY. Claim 9 recites “wherein disambiguating among the possible translations includes: determining a frequency of co-occurrence of the possible translations in the identified documents, and designating one of the possible translations with a highest frequency of co-occurrence as a correct translation.” As discussed above, neither CHAN nor LIDDY discloses “locating documents in the first language that...identify documents in the second language” and “using the identified documents to identify one of the possible translations as a likely translation of the search query,” as recited in claim 1, from which claim 9 depends. LIDDY merely discloses a frequency database that provides frequencies of each word's usage as a particular sense and that is used to select a concept group for each word of a natural language search query. LIDDY does not suggest or disclose locating documents in a first language that identify documents in a second language, determining a frequency of co-occurrence of the possible translations in the identified documents, and designating one of the possible translations with a highest frequency of co-occurrence as a correct translation, as recited in claim 9.

The Office Action (page 8) cites column 6, lines 48-62 and column 13, lines 4-11 of LIDDY in support of the rejection of claim 9. At column 6, lines 48-62, LIDDY discloses:

Processing of documents and queries follows a modular progression, with documents being matched to queries based on matching (1) their conceptual-level contents, and (2) various term-based and logic representations such as the frequency/co-occurrence of proper nouns. At the conceptual level of matching, each substantive word in a document or query is assigned a concept category, and these category frequencies are summed to produce a vector representation of the whole text. Proper nouns are considered separately and, using a modified, fuzzy Boolean representation, matching occurs based on the frequency and co-occurrence of proper nouns in documents and queries. The principles applied to the proper noun matching are applicable to matching for other terms and parts of speech, such as complex nominals (CNs) and single terms.

This section of LIDDY merely discloses the matching of documents to search queries using the frequency/co-occurrence of proper nouns within the search terms of the search query. This section does not disclose any of the features of claim 9 noted above.

At column 13, lines 4-11, LIDDY discloses:

Global Knowledge simulates the observation made in human sense disambiguation that more frequently used senses of words are cognitively activated in preference to less frequently used senses of words. Therefore, the words not yet disambiguated by Local Context or Domain Knowledge will now have their multiple concept group codes compared to a Global Knowledge database source, referred to as the frequency database.

This section of LIDDY merely discloses a "global knowledge" frequency database that provides frequencies of each word's usage as a particular sense and that is used to select a concept group for each word of a natural language search query. This section, however, does not disclose any of the features of claim 9 noted above.

Therefore, since neither CHAN nor LIDDY discloses each and every feature of claim 9, Applicants submit that the Office Action has failed to establish a *prima facie* case of obviousness. Withdrawal of the rejection of claim 9 is respectfully requested for at least this additional reason.

Claim 18 recites a “method for performing cross-language document retrieval” that comprises “receiving a search query that includes one or more terms in a first language; performing a search of documents in the first language to locate one or more of the first language documents that contain anchor text that matches the search query and identifies one or more documents in a second language; determining possible translations of the terms of the search query into the second language; using the identified second language documents as parallel corpora for disambiguation among the possible translations of the terms of the search query; identifying one of the possible translations as a correct translation of the search query based on the disambiguation; and performing a search of second language documents using the correct translation of the search query.”

In rejecting claim 18, the Office Action admits (page 6) that CHAN does not disclose “using the identified second language documents as parallel corpora for disambiguation among the possible translations of the terms of the search query; and performing a search of second language documents using the correct translation of the search query.” The Office Action, however, alleges that LIDDY discloses the above-noted features. As discussed above, LIDDY merely discloses the use of three sources of linguistic evidence (e.g., local context, domain knowledge, and global information) for disambiguating natural language search terms, none of which includes one or more documents in a second language identified by documents in a first language. LIDDY does not suggest or disclose performing a search of documents in the first language that identify one or more documents in a second language and using the identified second language documents as parallel corpora for disambiguation among the possible

translations of the terms of the search query, as recited in claim 18.

The Office Action (page 7) cites column 13, lines 4-17; abstract lines 1-6; column 3, line 55 through column 4, line 13; and column 15, line 64 through column 16, line 10 in support of the rejection of claim 18.

At column 13, lines 4-17, LIDDY discloses:

Global Knowledge simulates the observation made in human sense disambiguation that more frequently used senses of words are cognitively activated in preference to less frequently used senses of words. Therefore, the words not yet disambiguated by Local Context or Domain Knowledge will now have their multiple concept group codes compared to a Global Knowledge database source, referred to as the frequency database. The database is an external, off-line sense-tagging of parallel corpora with the correct concept group code for each word. The disambiguated parallel corpora will provide frequencies of each word's usage as a particular sense (equatable to concept group) in the sample corpora. The most frequent sense is selected as the concept category.

This section of LIDDY merely discloses a "global knowledge" frequency database that provides frequencies of each word's usage as a particular sense and that is used to select a concept group for each word of a natural language search query. This section, however, does not disclose any of the features of claim 18.

At the abstract lines 1-6, LIDDY discloses:

A document retrieval system where a user can enter a query, including a natural language query, in a desired one of a plurality of supported languages, and retrieve documents from a database that includes documents in at least one other language of the plurality of supported languages.

This section of LIDDY merely discloses that a user can enter a natural language search query in one language supported by the system and retrieve documents in another language from a database. This section, however, does not disclose any of the features of claim 18.

At column 3, line 55 through column 4, line 13, LIDDY discloses:

The present invention is embodied in a multilingual document retrieval system, 10, sometimes referred to as CINDOR (Conceptual INTERlingua DOcument Retrieval). The CINDOR system is capable of accepting a user's query stated in any one of a plurality of supported languages while seamlessly searching, retrieving and relevance-ranking documents written in any of the supported languages. The system further offers a "gloss" transliteration of target documents, once retrieved, sufficient for a surface understanding of the document's contents.

Unless otherwise stated, the term "document" should be taken to mean text, a unit of which is selected for analysis, and to include an entire document, or any portion thereof, such as a title, an abstract, or one or more clauses, sentences, or paragraphs. A document will typically be a member of a document database, referred to as a corpus, containing a large number of documents. Such a corpus can contain documents in any or all of the plurality of supported languages.

Unless otherwise stated, the term "query" should be taken to mean text that is input for the purpose of selecting a subset of documents from a document database. While most queries entered by a user tend to be short compared to most documents stored in the database, this should not be assumed. The present invention is designed to allow natural language queries.

This section merely defines a "document" and the term "query" for use of those terms within the disclosure of LIDDY. This section, however, does not disclose any of the features of claim 18.

At column 15, line 64 through column 16, line 10, LIDDY discloses:

FIG. 5 shows a complete single French sentence as input, and shows the two-stage disambiguation explicitly. The native language sentence is shown being processed through the multilingual concept group generation process, to a monolingual conceptual representation with disambiguated concept codes. For simplicity, only the English language members of the multilingual concept groups are shown. In this example, the complete sentence has "anchor codes" (e.g., "comptant," which maps to code #105, with the English member "in cash") that can be used to help disambiguate other polysemous words in the sentence using Local or Domain processing. For example, the French "les paiements" maps to three codes, which are disambiguated at the MCGD to a Finance code).

This section merely discloses the input of a single French natural language sentence as a search

query, and disambiguation of the terms of the search query using “local” or “domain” processing (as described above). This section, however, does not disclose any of the features of claim 18.

Therefore, since neither CHAN nor LIDDY discloses each and every feature of claim 18, Applicants submit that the Office Action has failed to establish a *prima facie* case of obviousness. Withdrawal of the rejection of claim 18 is respectfully requested.

Independent claim 19 recites similar features to those of claim 18. Applicants, therefore, submit that the Office Action has failed to establish a *prima facie* case of obviousness for similar reasons to those set forth above with respect to claim 18.

Independent claim 22 recites “receiving a search query that includes one or more terms in a first language,” “performing a search of documents in the first language to locate one or more of the first language documents that contain anchor text that matches the search query and references one or more other documents in the first language,” “identifying documents in a second language that contain references to the one or more other first language documents,” “determining possible translations of the terms of the search query into the second language,” “using the identified second language documents as parallel corpora for disambiguation among the possible translations of the terms of the search query,” “identifying one of the possible translations as a correct translation of the search query based on the disambiguation,” and “performing a search of second language documents using the correct translation of the search query.”

The Office Action (page 7) asserts that this claim has substantially the same features as claims 18 and 19, and rejects this claim on similar grounds. Claim 22, however, recites

substantially different features than either claims 18 and 19, features that the Office Action has not addressed. Applicants submit that neither CHAN or LIDDY disclose or suggest the invention recited in claim 22. If the Examiner persists in maintaining this rejection, Applicants respectfully request that the Examiner particularly point out where each and every feature of claim 22 is disclosed in CHAN or LIDDY.

Independent claim 25 recites “receiving a search query that includes one or more terms in a first language,” “performing a search of documents in the first language to locate one or more of the first language documents that match the search query,” “identifying documents in a second language that contain references to the one or more first language documents,” “determining possible translations of the terms of the search query into the second language,” “using the identified second language documents as parallel corpora for disambiguation among the possible translations of the terms of the search query,” “identifying one of the possible translations as a correct translation of the search query based on the disambiguation,” and “performing a search of second language documents using the correct translation of the search query.”

The Office Action (page 7) asserts that this claim has substantially the same features as claims 18 and 19, and rejects this claim on similar grounds. Claim 25, however, recites substantially different features than either claims 18 and 19, features that the Office Action has not addressed. Applicants submit that neither CHAN or LIDDY disclose or suggest the invention recited in claim 25. If the Examiner persists in maintaining this rejection, Applicants respectfully request that the Examiner particularly point out where each and every feature of claim 25 is disclosed in CHAN or LIDDY.

A further requirement for establishing a *prima facie* case of obviousness is that there must be some reason, suggestion, or motivation to combine reference teachings. *In re Vaeck*, 947 F.2d 488, U.S.P.Q.2d 1438 (Fed. Cir. 1991). See M.P.E.P. § 2143. Applicants respectfully submit that the Office Action has not provided a sufficient reason, suggestion, or motivation for combining the teachings of CHAN and LIDDY.

With respect to claims 6-9, 16 and 17, Applicants submit that the Office Action (pages 7 and 8) has not provided any reason, suggestion, or motivation, whatsoever, why a person of ordinary skill in the art would have modified the teachings of CHAN with the teachings of LIDDY to produce the invention recited in these claims. The Office Action fails to provide any type of motivational statement for combining CHAN and LIDDY with respect to claims 6-9, 16 and 17. Since the Office Action fails to provide a motivational statement with respect to these claims, Applicants submit that the Office Action has failed to establish a *prima facie* case of obviousness with respect to claims 6-9, 16 and 17. Withdrawal of the rejection of these claims is respectfully requested for at least this additional reason.

With respect to claims 18 and 19, Applicants submit that the Office Action has not provided a sufficient reason, suggestion, or motivation for combining the teachings of CHAN and LIDDY. The Office Action (page 7) alleges that it “would have been obvious to a person of ordinary skill in the art at the time the Applicant’s invention was made to modify the teachings of Chan with the teachings of Liddy to include a multilingual retrieval system in order for user to retrieve documents from a database that includes documents in at least one other language of the plurality of supported languages without any knowledge of other language.” Applicants submit

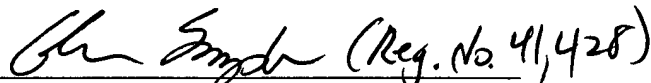
the Office Action's rationale for combining CHAN and LIDDY merely restates the function of LIDDY. Applicants further note that CHAN already discloses a multilingual retrieval system, where a search query in one language is translated into a search query in another language to search for, and retrieve, documents in the other language. Therefore, since CHAN, broadly speaking, already performs the function attributed by the Office Action to LIDDY, Applicants submit that the re-stated function of LIDDY, as set forth in the motivational statement in the Office Action, does not provide a sufficient reason for combining LIDDY with CHAN. Absent a showing of sufficient motivation to combine the references, Applicants submit that the Office Action has failed to establish a *prima facie* case of obviousness with respect to claims 18 and 19.

The Office Action alleges that it is rejecting independent claims 22 and 25 on similar grounds to claims 18 and 19. Applicants, therefore, submit that the Office Action has failed to establish a *prima facie* case of obviousness with respect to claims 22 and 25 for similar reasons to those set forth above with respect to claims 18 and 19.

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of this application, and the timely allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

By:  (Reg. No. 41,428)
For Tony M. Cole
Registration No. 43,417

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Harrity & Snyder, L.L.P.
11240 Waples Mill Road
Suite 300
Fairfax, Virginia 22030
Main: (571) 432-0800
Direct: (386) 575-2713

Customer Number: 26615